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ASSESSMENTS AND RESEARCH

(U) WORLD FARM SURPLUSES: DILEMMA FOR THE DEVELOPED COUNTRIES[1/]

Summary

World farm productivity, rising rapidly, has already produced commercial surpluses of nearly every major agricultural commodity. New technology has been pervasively powerful because it has cut per-unit production costs even as it has raised total output.

Most developed-country governments have tried to protect small farmers from the impact of the new technology, primarily through trade constraints and increases in domestic farm prices. Despite such efforts, large numbers of small farmers have been driven out of farming, while most of the benefits of protection have gone to large farmers because of their high output.

The programs themselves now stimulate higher farm production. The current rapid rise in farm output is threatening to overwhelm national farm policies and budgets in the developed countries, worsen international farm trade conflicts, and provide an even less hospitable climate for international trade and commodity agreements.

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1/ This is the second of three reports on the increasing productivity of world agriculture. The first (INR Report 969-AR, dated December 6, 1984) examined the reasons for rising farm productivity. The third report will assess farm production prospects by region and by country.

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Report 1000-AR
January 18, 1985

Introduction

The rapid rise in world farm productivity confounds neo-Malthusians and brightens the prospects for the world's hungry. Farm productivity today is less constrained by the historic factors--land, climate, and farming traditions. It depends increasingly on science, investment, and the skill of high-technology farm managers. Output is being boosted by development of new technology and continuing adoption of existing technology. Equally important, farm production is being stimulated by additional agricultural investment in middle-income countries, productivity-oriented farm policies in more less-developed countries (LDCs), and heavy farm subsidies in most of the high-income countries.

These are ominous developments for US farm exports--in recent years the nation's largest source of foreign exchange earnings. US farm exports have already fallen sharply in the 1980s, because of reduced demand for high-value protein foods and increased production by US competitors. A US Department of Agriculture volume-and-value index of US farm exports rose from 82 in 1975 to 140 in 1980, but dropped to 128 for 1983 and 1984. US cereal exports, which rose 175 percent during the 1970s, have declined 11.5 percent in the 1980s. US cotton exports have fallen 40 percent in the past decade. Meanwhile, US farm surpluses have mounted, and US farm program outlays have risen from about $1.5 billion in 1979 to an average of nearly $15 billion in each of the last three years.

World markets will not absorb all of the farm products that developed-country farmers will now produce at current price levels:

- --The chronically hungry people of the world cannot absorb the surplus because most of them are scattered beyond the reach of transportation and marketing systems.

- --Large numbers of LDC residents lack the income to improve their diets much beyond subsistence levels--and should their incomes improve, their own countries generally would have the potential agricultural productivity to meet most of their demand.

- --Affluent consumers sharply increased their demand for protein foods in the 1970s, but that demand now is proving surprisingly price sensitive. The demand growth ceased when incomes

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stagnated in the 1980s, and artificially high prices have also limited market growth.

--Finally, the developed countries' farm subsidy policies themselves have become incentives for the adoption of new technology and thus for increased output.

Current World Farm Surpluses

The world's farmers already produce more of nearly every farm commodity than commercial buyers will take at profitable prices. Surpluses loom in grain, oilseeds, sugar, cotton, coffee, meat, dairy products, wine, and horticultural crops. World farm trade not only has lost its growth trend but actually has been shrinking. World exports of cereals, which almost doubled in the 1970s, were lower in 1983 than in 1980. Similarly, world soybean exports rose 128 percent in the 1970s and now are slightly below their 1980 total.

The worldwide slowdown in economic growth was the most important factor in the slackening of demand, but substitution also has become important, with manioc displacing grain in livestock rations, high-fructose corn sweetener and aspartame substituting for sugar, and synthetic fibers replacing cotton and wool.

The UN Food and Agriculture Organization reports that wheat, corn, beef, vegetable oils, cotton, sisal, and sugar recently have all been selling for 20-40 percent less in real terms than they were two decades ago. Inasmuch as production and exports in nearly all of these commodities have increased substantially during this period, the declining price trends are due primarily to 1) the declining real cost of producing these commodities with modern seed varieties, chemicals, machines, and management techniques; and 2) the willingness of developed-country governments to subsidize their own farm production.

Grain. World wheat production has increased steadily from 440 million metric tons (mmt) in 1980-81 to about 500 mmt in 1984-85 (an increase of nearly 14 percent). World coarse-grain production has increased even more rapidly, from 730 mmt to more than 800 mmt in the same period (an increase of nearly 10 percent). World grain carryover stocks peaked at more than 250 mmt in 1982-83--at least 100 mmt over the level needed for working stocks and world food security.

The world has harvested record rice crops for five years in a row, although such countries as Japan and the Philippines have paid farmers to divert land from rice to other crops. World rice stocks have been reduced, primarily because Japan and the US have struggled to reduce their costly storage stocks. Taiwan and

Colombia have forced their farmers to feed expensive rice to livestock.

World grain stocks at the end of 1984 totaled some 200 mmt--despite a major US program to divert land from production in 1983-84, a series of crop shortfalls in the USSR, and major recent droughts in Australia, southern Africa, and the US corn belt. Without a US feed grain diversion program for 1985, the US could easily produce 30 mmt more corn (10 percent more) than it did last year.

Oilseeds. World production of fats and oils has increased 11 percent in five years, with more soybeans coming from Argentina and Brazil, more palm oil from Southeast Asia, more coconut oil from the Philippines, and more rapeseed from Europe. China has harvested record oilseed crops along with its other recent farm output increases. The US payment-in-kind (PIK) program was the major factor in reducing a burdensome 1983 world soybean carryover of 17 mmt to 13 mmt in 1984. The carryover for 1985, however, is back up to 15 mmt, with demand for oilmeals weak.

Sugar. World sugar production has outstripped consumption in most recent years; the sugar carryover now totals about 37 mmt--40 percent of an entire year's consumption. World production seldom varies by more than 7-8 mmt from year to year.

Sugar prices recently have fallen below five cents per pound--historic lows in real terms. The biggest causal factor has been subsidized sugar exports from the European Community (EC)--totaling about 4 mmt of sugar annually in recent years. Thus the EC has become the world's largest sugar producer and second largest exporter (behind Cuba). The EC's beet sugar has been produced in response to some of the world's highest price supports.

Another major bearish factor in the world sugar market has been US sugar policy, which has used quotas to protect US producers with a price for refined sugar of more than 22 cents per pound in the US market. This price has not been attractive enough to stimulate increased production by the high-cost US sugar industry--but it has been more than high enough to stimulate increased production of high-fructose corn sweetener. HFCS has now taken about 30 percent of the US sweetener market, and production recently has been expanding at the rate of nearly half a million tons per year.

The structure of the US protection system guarantees that HFCS expansion displaces imported rather than domestic sugar. Even Japan, with its minuscule ratio of land to population, reserves about one-third of its sugar market for domestic growers, further depressing world sugar prices.

Cotton. The world's cotton crop will increase 10 percent in 1984-85, to a record 74 million bales. World cotton stocks at the end of 1984 were the highest in a decade--nearly 30 million bales.

Cotton increasingly is becoming an LDC crop. China has doubled its cotton production in the last five years and is expected to export 1 million bales in 1984-85. As recently as 1979-80, China imported more than 4 million bales. Turkey and Argentina are expanding plantings. The US PIK program helped cut the US crop by 50 percent in 1983, but the 1984 crop was even larger than that of 1982.

Coffee. Carryover coffee stocks at the end of 1984-85 are projected at more than 48 million bags--the highest level in history and equal to more than 70 percent of annual exports. Moreover, a great many coffee trees are just reaching full production.

High prices following Brazil's disastrous freeze in 1975 encouraged major new plantings, mostly with higher yielding trees. Colombia and Indonesia alone expanded production by 9 million bags. Then Brazil planted 350 million new trees, and production potential soared. Bad weather hurt Brazil's crop in 1983, especially its quality. The poor quality combined with quotas under the International Coffee Agreement to keep prices for good-quality coffees high. World coffee prices will continue under heavy pressure for the foreseeable future.

Meat. Beef prices in the world market have recently been at their lowest real level in many years. Consumer demand has been weak owing to the world recession, while import barriers and export subsidies have seriously affected trade. Per capita consumption has been rising slightly in the newly industrializing countries, but has fallen in such meat-eating countries as the US, Argentina, and Australia. The EC held more than 600,000 mt of surplus meat in cold storage at the end of 1984, almost the same amount it has been able to export annually in recent years even with heavy subsidies.

Dairy Products. Domestic policies of both the EC and the US have generated major surpluses of dairy products. Most of the EC's surpluses are exported under subsidy. Little of the US dairy surplus is exported; most of it is donated to domestic poverty recipients, but in some cases it is distributed to needy people overseas.

World prices for butter dropped in the past two years from more than $2,000 per mt to $1,200--and the EC recently negotiated a large sale to the USSR at an effective average price of $805 per mt. The EC has butter stocks equaling nearly four times

recent annual world imports. The world's cheese stocks are more than three times annual world imports, with most of the surplus held in the US. Both the EC and the US have large stocks of nonfat dry milk, with world carryover equal to two years' exports.

Horticultural Crops. EC subsidies have led to surpluses of wine grapes, citrus, apples, and tomatoes. The EC "wine lake" rose to an estimated 3.2 billion liters in 1984, despite sizable amounts of wine being denatured into alcohol for sale in gasahol (at huge subsidy costs). Spain, expected to join the EC in the near future, has just adopted an export subsidy program for its own wine surplus, hoping to raise exports from 60 million liters per year to 75 million liters.

The EC in 1983 destroyed more than 200,000 tons of apples and 100,000 tons of oranges and lemons to support prices. US grape growers are producing more fruit than the market can readily absorb; this has meant bargains for wine buyers, losses for wineries, and sharply lower values for vineyard land.

Stimulative Farm Policies in Developed Countries

Technology has been rapidly expanding the output of developed-country agricultures since World War I. The new technologies have had pervasive power because they have cut per-unit production costs and/or improved income potential for individual farmers even as they have raised total output. Farm productivity has risen rapidly as a result, while farm manpower requirements have plummeted. Farmers who have not been able to match the efficiency of the leaders have protested that their returns have been unfairly depressed, and governments in virtually all of the developed countries have responded with protection and subsidies.

To keep farmers' prices at politically acceptable levels, the US has depended on price supports and land diversion programs; recently, it has directly supplemented some farmers' incomes. Japan has depended primarily on import quotas. The EC has developed the variable levy. All of these protective devices, however, are threatened by the continuing increases in farm productivity. In fact, the very programs set up to cushion farmers from the new productivity virtually guarantee efficient farmers a profit on their additional output.

Almost every country in the Organization for Economic Cooperation and Development (OECD) now has a dual agriculture. One segment consists of big, commercialized farmers using the latest methods and equipment to lower unit costs. (These commercial farmers have also tended to increase their farm size in order to maximize their incomes.) The other segment consists of small--

even part-time--farmers who trade income for rural lifestyle. Price supports or trade protections tend to be set high enough to provide a good living for the small farmer and thus are often high enough to be very profitable for the big farmer.

The increased farm production is surplus. It must be held in storage at great expense, destroyed, diverted to secondary uses, given to the poor, or sold under subsidy in third-country markets where it depresses incentives for unprotected farmers. One of the major impacts of developed-country farm subsidies is to divert billions of dollars worth of investment capital away from the creation of nonfarm jobs and into unneeded farm production. A large proportion of the farm investment, in fact, goes to bid up farm land values, generating no new jobs at all. The higher land values, perversely, raise production costs and thus make it more difficult for the subsidized farms to compete in free markets. British farm land values, for example, doubled within 12 months when the United Kingdom joined the EC.

Farm subsidies derive much of their support from nonfarm residents who are receptive to the idea of helping small farmers compete with big ones. In fact, subsidies have not been very successful in that role. Virtually all developed-country farm policies are heavily oriented toward raising farm prices; because small farmers do not produce much, the major benefits of such programs go to large farmers. The proportion of US population on farms has dropped from 25 percent to less than 4 percent during the years of price support programs. Farmer numbers in the EC declined by 35 percent in the 1970s alone, despite the world's most broadly generous farm price subsidies.

US Farm Programs. The US has offered price supports for most of its major crops since the 1930s. The subsidies periodically have resulted in surpluses; with the recent combination of support prices and declining world farm export demand, the surpluses have been huge.

In 1983, the US Government held more than 150 mmt of grain, including 50 percent of a year's supply of wheat and corn and 60 percent of a year's supply of rice and dairy products. Program costs soared. Dairy spending, for example, rose from $244 million in 1978 to more than $2.5 billion in 1983. The PIK program idled more than 31 million hectares of cropland in 1983, and a smaller amount in 1984, but pushed overall government farm outlays for fiscal 1983 and 1984 to nearly $30 billion. These massive costs make it unlikely that PIK will be repeated. Thus, the dilemma of surplus production remains unresolved.

EC Farm Programs. The EC's Common Agricultural Policy has offered EC farmers price incentives that may well have averaged

50 percent above world market levels in recent years. The CAP has used export subsidies--recently as much as $9 billion per year--to sell the resulting surpluses in third-country markets. It has helped shift the EC over the past 20 years from the status of a net importer of 20 mmt of grain annually to that of a net exporter of 15 mmt--an unprecedented swing. The CAP has generated EC surpluses of milk, meat, poultry, sugar, wine, olive oil, and tomatoes.

The EC recently went through a major budget crisis, which stemmed basically from the rising cost of its farm programs. Rather than slash CAP subsidies, the EC resolved the crisis by raising the value-added tax on members by 40 percent. The EC also has decided to accept Spain and Portugal as members--which will add 24 million hectares of farmland to the EC, along with immediate surpluses of wine, olive oil, and tomatoes. Because Iberian farmers have had lower productivity than EC farmers, accession can be expected to stimulate substantial increases in Spanish and Portuguese farm output and further spending on farm export subsidies.

Japanese Farm Programs. Japan gives its farmers extensive protection, even though the country has a small arable land base and imports 75 percent of the farm products it consumes. The protection is provided primarily through restrictive import quotas on farm products, which raise consumer prices to very high levels. Japanese farmers are especially influential in national politics because rural voters are overrepresented in the parliament by a factor of three. Japanese consumers pay more than twice as much as US consumers for rice and such quota items as beef, cheese, and oranges. The quotas obviously restrict market growth.

Recently Japan ended two years of strenuous negotiations with the US by agreeing to raise the annual beef import quota from 30,800 mt per year to 58,000 mt. The increase represents only about one-half pound per year to the Japanese consumer, and even that is phased in over four years. If Japan had let meat consumption grow even as fast as it has in Taiwan, the increased Japanese consumption would require 4 million tons more feedstuffs per year than it currently does.

International Implications of Rising Farm Productivity

Rising farm productivity is still a rational goal for LDCs and middle-income countries, but it is a dilemma for the developed countries. Developed-country increases in farm output are surplus and are threatening to overwhelm farm policies and budgets.

The world already has a chronic set of farm trade conflicts, and these are likely to worsen--pitting developed countries against developed countries, developed countries against LDCs, and probably even LDCs against one another.

The US and the EC have been in conflict over farm trade ever since the formation of the Community. The famous "chicken war" erupted as soon as the EC's first variable levies were instituted in 1962 effectively doubling EC poultry tariffs and drawing US threats of retaliation. Since then, the EC has systematically narrowed Community access for other farm exporters in nearly every competitive commodity as per capita farm production in EC countries has increased 25 percent.

The General Agreement on Tariffs and Trade (GATT) forbids the use of export subsidies on manufactured products, but for agricultural products it says only that such subsidies should not be used to acquire an unfair share of markets. The US interprets this to mean that export subsidies should hardly be used at all, while the EC says it should be entitled to a proportion of the growth in world farm trade. The US charges that the EC subsidies have cost it billions of dollars annually in lost trade and increased farm program costs.

The US has brought a number of agricultural complaints against the EC under the GATT. Although it has won some decisions, it has not received much EC retribution. The Community, for its part, has recently tried to renegotiate the duty-free status of soybeans and corn gluten meal, both of which had been bound duty-free in previous trade negotiations. The US has bitterly resisted any further restrictions on their access.

Both the EC and the US are in conflict with LDC sugar exporters--the EC for its 4 mmt per year of subsidized exports, and the US for its import quotas. The EC exports were a major factor in the recent failure of the International Sugar Agreement and the breakdown in talks over a new ISA. The US quotas have encouraged expansion in HFCS, cutting US sugar imports.

The EC and the US are also in conflict with New Zealand over dairy product exports. The EC continues to subsidize large exports of butter and nonfat dry milk. The US has maintained tight quotas on dairy product imports under a longstanding GATT exemption and has been accumulating large quantities of butter, cheese, and nonfat dry milk under its price support program. It has exported some of these products, with concessional terms, to LDCs. In 1983 the US also sold a large quantity of surplus butter to New Zealand (which reexported the butter for its own trade account) as a less disruptive alternative to sale directly on the world market.

EC relations with LDCs--once a point of pride for the Community--have taken a sharp turn for the worse in recent years. The EC's LDC trading partners have protested both the Community's farm import barriers and its subsidized exports. The Lome Convention between the EC and its former colonies has been of small help to member LDCs. One of its major benefits has been to offer high

prices for specific amounts of sugar from Lome members; in effect, however, the EC reexports this sugar and depresses the prices its members get for their non-EC marketings. The EC refused to grant more favorable trade terms in the recent renegotiation of Lome.

Japan is being pressured from all sides over its continued use of tight import quotas to protect its farmers and constrain consumer demand. With its large, affluent population, low levels of protein consumption, and high food prices, Japan is the outstanding reservoir of unmet commercial food demand in the world. The US, Australia, New Zealand, the EC, Thailand, and China have all recently sought expanded access to the Japanese market for food.

Implications for the Future

None of the major developed-country exporters can yet renounce its current farm policies without major domestic political costs. As a result, even greater farm trade frictions are likely in the years just ahead. The US and the EC will continue to pressure each other strongly in third-country markets and in international forums. Japan will feel continuing pressure for farm quota liberalization from important trading partners and especially from its growing markets in Southeast Asia. The US will be pressured to relax import constraints by LDCs that are increasingly good customers, with sugar, meat, and textiles as probable focal points.

International trade agreements are even less likely to succeed in this hotly competitive trading environment. Not only will countries vie for market shares, but technology and capital will continue to permit commodity production to relocate more freely and rapidly than it has in the past. Thailand's corn expansion and Malaysia's emergence as a major cocoa producer are just two of many recent examples that underscore the point.

Eventually, the subsidies and protections now hampering world farm trade and raising consumer food costs throughout the OECD countries probably will be scaled back. Currently, however, farmers enjoy enviable support from developed-country electorates--even in advanced economies where commercial farms bear little resemblance to the family farms of the past. Moreover, rural representatives have proved themselves adept at trading favors with their urban counterparts to protect constituent advantages. A whole series of head-to-head confrontations in the world's farm export markets are likely to occur before the developed countries resolve their farm productivity dilemma.

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